

REMARKS/ARGUMENTS

Applicants thank the Examiner for considering Applicants' request for an Interview, even though the Examiner did not grant the request in view of the prosecution status of the application.

In the Office Action, the Examiner has rejected independent claim 1 as being unpatentable over Applicants' Admitted Prior Art (AAPA) in view of Takemori. The Examiner argues that the AAPA describes a laser machining apparatus wherein there is a problem that machining beams are incident on the surface of the printed circuit at an angle so that the axes of the machined holes are inclined. The Examiner then argues that Takemori discloses a reflection/transmission type beam combining means (Fig. 9) and a polarizing type beam combining means (22) and that the substitution of these components into the AAPA would have been obvious to reduce shift and inclination of the beam delivery. As will be further explained below, Applicants respectfully submit that even if the components of Takemori could be substituted for the components of the AAPA, that the combined references still cannot disclose all of the features of Applicants' invention as claimed, which solve the additional problem in the prior art discussed by Applicants, which has not been addressed by the Examiner.

In the specification, Applicants explain a first problem in the AAPA that, because two optical scanning systems are associated with one machining lens, these two optical scanning systems cannot be placed in optimum positions with respect to the machining lens. Thus, there is the problem discussed above that the machining beams are incident at an angle. Applicants respectfully submit that even if this first problem can be solved by substituting the components of Takemori into the AAPA to solve this problem, the Examiner has provided no argument as to how the disclosed components and configuration of Takemori, if substituted into the AAPA, can solve the additional problem discussed by Applicants in the AAPA of there being no reference in the AAPA to a method for making *three or more beams incident on one machining lens* so as to

further improve the machining speed while reducing the price of the apparatus. See para. 0010 in Applicants' Published Patent Application. Applicants respectfully submit that claim 1 particularly claims a configuration for the total reflection/transmission type beam combining means and the polarizing type beam combining means that solves this additional problem in the AAPA and that even if the devices of Takemori can be substituted into the AAPA to solve the angle problem, that there is no disclosure in Takemori that could solve this additional problem discussed by Applicants in the AAPA. Additionally, Applicants respectfully submit that the Examiner has provided no argument as to how any structure in Takemori could solve this additional problem. Applicants respectfully submit that Applicants' particularly claimed configuration for the total reflection/transmission type beam combining means and the polarizing type beam combining means solves this additional problem in the AAPA and that Takemori does not disclose this configuration. Therefore, Applicants respectfully submit that even if the Examiner's combination can be made for the reasons argued by the Examiner, independent claim 1 is still allowable over the combined references since the combination does not disclose the further claimed configuration of Applicants' invention.

In Applicants' invention as claimed in claim 1, with the total reflection/transmission type beam combining means, the optical paths of two of the beam splits incoming from two directions almost perpendicular to each other are aligned in essentially the same direction by the total reflection/transmission type beam combining means. As further claimed in claim 1, the optical paths of the two aligned beam splits coming from the reflection/transmission type beam combining are aligned in a same direction with a third beam split by the polarizing type beam combining means. Thus, Applicants' claimed configuration for the total reflection/transmission type beam combining means and the polarizing type beam combining means, with reference to the three beam splits, solves the additional problem in the AAPA of there being "no reference to a method for making three or more beam splits incident on one machining lens".

As discussed above, Applicants respectfully submit that the Examiner has provided no argument for where this particular configuration has been disclosed in Takemori, and respectfully submit that this configuration is not disclosed in Takemori since the Examiner has not argued that Takemori can solve this additional problem in the AAPA, as discussed by Applicants.

Applicants respectfully submit that the AAPA does not disclose the claimed feature of Applicants' invention of making three or more beam splits incident on one machining lens. This is a problem discussed by Applicants with respect to the prior art. Additionally, Applicants respectfully submit that Takemori does not disclose making three or more beam splits incident on one machining lens, and thus, cannot disclose Applicants' claimed configuration for solving this problem. In Takemori, the method and apparatus is directed only to making side walls for a tracking groove in a magneto-optical disk. Polarizing prism 22 merely synthesizes light beams 5a, 5b. Light beams 5a and 5b are used to form the groove. Light beam 5a forms one side of the groove and light beam 5b forms the other side of the groove. If both sides are to be formed with a wobble (See Fig. 2(a), two-sided wobble groove 1), both of light beams 5a and 5b are oscillated. If only one of the sides are to be formed with a wobble (See Fig. 3(a), one-sided wobble groove 2), only one of the light beams is oscillated. Even in the embodiment of Figure 9, which the Examiner has also referenced in the Office Action, the apparatus and method still only makes two side walls for the tracking groove. Whereas Figure 9 discloses three light beams 5a, 5b, and 73, this embodiment still only uses two of the three beams for forming the grooves. If a two-sided wobble groove is desired, light beams 5a and 5b are used and "the light beam 73 is blocked." If a one-sided wobble groove is desired, light beams 5b and 73 are used and "the light beam 5a is blocked." Col. 10, lines 59-67 and Col. 11, lines 9-18. (emphasis added). Therefore, even in an embodiment of Takemori where three light beams are disclosed, there is no disclosure in Takemori for aligning two beam splits coming from a reflection/transmission type beam combining means in a same direction with a third beam split by a polarizing type

beam combining means, as claimed by Applicants in claim 1. Further, Applicants' respectfully submit that by using the polarizing prism 22 of Figure 9 of Takemori, it is impossible to combine three beams coming through lens 19a, 19b, and 19c. By means of using polarizing prism 22, the beam through 19c is reflected to the direction of 19b, but is not combined.

Applicants respectfully submit that the claimed configuration of Applicants' invention solves the problem in the AIPA of there being "no reference to a method for making three or more beam splits incident on one machining lens." As discussed above, Takemori provides no structure to solve this problem, and is not even directed to solving this problem. Takemori is directed to forming wobble grooves in a two-sided track of a magneto-optical disk. Thus, as disclosed in Takemori, the structure only provides two light beams incident on the disk at any one time. Only two light beams are used because each forms one side of the groove. Therefore, Applicants respectfully submit that even if the Examiner's argued combination can be made, the combined references still do not disclose all of the claimed features of Applicants' invention as particularly claimed in claim 1. Applicants respectfully request that if the Examiner disagrees with Applicants' understanding of Takemori, that the Examiner particularly point out where in Takemori the particularly claimed configuration of Applicants' invention can be found and where this configuration makes *three or more beams incident on one machining lens*.

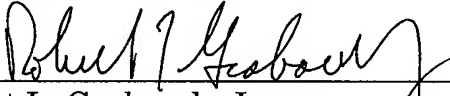
Applicants respectfully submit that the application is in condition for allowance with claims 1-3 being allowable. If there are any questions regarding this Response or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

As provided for above, this Paper should be considered as a Petition for an Extension of Time sufficient to effect a timely response. Please charge any deficiency in fees, or credit any overpayment of fees, to Deposit Account No. 05-1323 (Docket No. 029116.53329US).

Respectfully submitted,

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